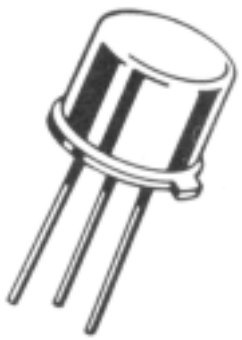
2N3553
Silicon NPN Transistor
RF Power Driver

Description:

The 2N3553 is a silicon NPN transistor in a TO39 type package designed for amplifier and oscillator applications in military and industrial equipment. Suitable for use as an output, driver, or in predriver stages in VHF equipment.



C B E

Features:

- Specified 175MHz, 28V Characteristics:
  - Output Power: 2.5W
  - Minimum Gain: 10dB
  - Efficiency: 50%

Absolute Maximum Ratings:

Collector-Emitter Voltage, V_{CEO}	40V
Collector-Base Voltage, V_{CB}, V_{DG2}	65V
Emitter-Base Voltage, V_{EB}, V_{DG2}	4V
Collector Current, I_C	1A
Total Device Dissipation (T_C = +25°C), P_D	7W
Derate above 25°C	40mW/°C
Operating Junction Temperature Range, T_J	-65° to +200°C
Storage Temperature Range, T_{stg}	-65° to +200°C

Electrical Characteristics: (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector-Emitter Sustaining Voltage Voltage	$V_{CEO(sus)}$	I_C = 200mA, I_B = 0, Note 1	40	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 0.1mA, I_C = 0	4	-	-	V
Collector Cutoff Current	I_{CEO}	V_{CE} = 30V, I_B = 0	-	-	0.1	mA
	I_{CEX}	V_{CE} = 30V, $V_{BE(off)}$ = 1.5V, T_C = +200°C	-	-	5.0	mA
		V_{CE} = 65V, $V_{BE(off)}$ = 1.5V	-	-	1.0	mA
Emitter Cutoff Current	I_{EBO}	V_{BE} = 4V, I_C = 0	-	-	0.1	mA
ON Characteristics						
DC Current Gain	h_{FE}	V_{CE} = 5V, I_C = 5V	10	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 250mA, I_B = 50mA	-	-	1.0	V
Dynamic Characteristics						
Current Gain-Bandwidth Product	f_T	V_{CE} = 28V, I_C = 100mA, f = 100MHz	-	500	-	MHz
Output Capacitance	C_{ob}	V_{CB} = 30V, I_E = 0, f = 100kHz	-	8	10	pF
Functional Tests						
Power Input	P_{in}	V_{CE} = 28V, P_{out} = 2.5W, f = 175MHz	-	-	0.25	W
Common-Emitter Amplifier Power Gain	G_{pe}		10	-	-	dB
Collector Efficiency			50	-	-	%

Note 1. Pulsed through a 25mH inductor.